UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>09 April 2004</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-25* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-25* is/are rejected.

7) ☒ Claim(s) *21* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>24 June 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Title

1.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

The following title is suggested: Method and system for processing a call of the

pre-paid services.

Claim Objections

2.   Claim 21 objected to because of the following informalities: Sentence number

three (starting with "a service node (SN)....") ended with a comma. It should be ended

with a semicolon (";") instead of a comma. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. ·   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1-8, 11-21, and 25 are rejected under 35 U.S.C. 102(b) as being

anticipated by Donovan et al. (U.S. Patent Number 6,292,656).

Regarding claim 1, Donovan et al. teach a method for setting up a call to a

subscriber station (**Fig. 1 – 104 Prepaid Subscriber; 106 Handset**) comprising:

receiving a first request to set up a call to a subscriber station (**Fig. 1 – 108**

Mobile Switching Center (MSC)) - column 3 – lines 45-48, i.e., MSC receives a first

request to set up a call from a subscriber station (106 – Handset));

processing the first request at a service node and providing, from the service

node, a second request to set up the call to the subscriber station, the second request

including a non-loop parameter (**Fig. 1 – 112 Service Platform, 116 Prepaid Platform**

– column 3 – lines 55-56, i.e., MSC directs the first request to service node (112

and 116), column 4 – lines 12-19, i.e., second request from 112 to 116 using initial

address message (SS7 – ISUP IAM message) contains digits (non-loop

parameter));

receiving the second request at a switch (**Fig. 1 – 112, 116 - column 4 – lines**

12-14, i.e., second request from 112 to 116, and column 4 – lines 24-25, i.e., 116 is

made up of components that have switching) and responsively sending a service

request including the non-loop parameter to a service control point (**Fig. 1 – 118 Local**

Exchange Network (LEC) – column 4 – lines 44-45, i.e., sending request to 118

(service control point (SCP) – LEC with SS7 signaling system include SCP, SSP,

STP, etc. – column 2 – lines 37-50)); and

detecting the non-loop parameter at the service control point and, in response to

at least the non-loop parameter, directing the switch to set up the call to the subscriber

station (**Fig. 1 – 116, 118 - column 4 – lines 44-45, and column 4 – lines 49-51,i.e., 116 switching component completes the call set up as directed by 118**).

Regarding claims 2-3, and 15-16, Donovan et al. teach a method wherein processing the first request comprises applying pre-paid call processing logic and applying custom ring-back tone processing logic; and wherein applying the service logic in the SN comprises applying pre-paid call processing logic and applying custom ring-back tone processing logic (**Fig. 2 – 112 Enhanced Service Platform – 116 Prepaid Platform (service node (SN)) – column 3 – lines 45-48, column 3 – lines 55-56, and column 4 – lines 22-29, i.e., prepaid call parameters from the first request is used by service node (SN) for prepaid call processing logic**).

Regarding claims 4, and 17, Donovan et al. teach a method wherein the second request comprises an Integrated Services Digital Network User Part (ISUP) Initial Address Message (IAM), and wherein the non- loop parameter comprises predefined digits included in a ReDirectingNumber parameter of the ISUP IAM (**see Table 1 – Initial Address Message (IAM) – Fields: Redirecting Number Parameter – Usage: Call forwarding – column 5 – lines 51-54, lines 65-66**).

Regarding claims 5, and 7, Donovan et al. teach a method wherein the ISUP IAM is mapped to a Signaling System 7 (SS7) message in accordance with the Wireless

Intelligent Network (WIN) IS-771 standard (**Table 1 – Initial Address Message, Table**
4 and Table 5 – i.e., WIN parameters (e.g., TLDN, etc.)).

Regarding claims 6, and 18, Donovan et al. teach a method wherein the second
request comprises an Integrated Services Digital Network User Part (ISUP) Initial
Address Message (IAM), and wherein the non- loop parameter comprises predefined
digits included in an Original Called Party Number parameter of the ISUP IAM (**see**
Table 1 – Initial Address Message (IAM) – Fields: Original Called Number – Usage:
Call forwarding – column 5 – lines 51-54, lines 65-66).

Regarding claim 8, Donovan et al. teach a method wherein the non-loop
parameter is mapped to a WIN parameter in the SS7 message (**Fig. 3A – steps 308-**
316 – Table 1, Table 2, Table 3, and Table 4 - column 5 – lines 43-54, column 6 –
lines 43-44, lines 63-65, and column 7 – lines 17-25, i.e., digits (non-loop
parameter) mapping to IAM message (SS7 message)).

Regarding claim 11, Donovan et al. teach a method wherein receiving the first
request at the switch comprises receiving the first request at a mobile switching center
(**Fig. 1 – 108 Mobile Switching Center – column 3 – lines 45-48**).

Regarding claim 12, Donovan et al. teach a method wherein receiving the first
request at the switch comprises receiving the first request at a public switched

telephone network switch (**Fig. 2 – 118 Local Exchange Network (LEC) – column 4 –
lines 45-48, i.e., local Bell operating network such as Bell Atlantic (now called
Verizon) - column 4 – lines 66-67, and column 5 – lines 1, i.e., LEC and/or IXC are
well known in the art as a public switched telephone network switch (PSTN)**).

Regarding claim 13, Donovan et al. teach the method further comprising
generating one of an Advanced Intelligent Network (AIN) trigger and a Wireless
Intelligent Network (WIN) trigger in response to receiving the first request and, as a
result, generating a query for seeking call processing guidance from the service control
point (**Fig. 1 – 108 Mobile Switching Center (MSC) – column 3 – lines 45-48, i.e.,
wireless handset signals (request) to MSC 108 and an AIN/WIN trigger is
encountered at the MSC, and in response MSC generates first query to service
control point in IXC 114**).

Regarding claim 14, Donovan et al. teach a method for setting up a call to a
subscriber station (**Fig. 2 – 204 Caller; 120 Telephone**) comprising:

at a telecommunications switch, receiving a first request to set up the call (**Fig. 2
– 118 Local Exchange Network (LEC)) - column 4 – lines 66-67, i.e., switch at LEC
receives a first request to set up a call via 120**);

responsive to the first request, sending, from the switch to a service control point
(SCP), a first query seeking call processing guidance (**Fig. 2 – 118 Local Exchange
Network (LEC) – column 5 – lines 1-2, i.e., sending request the switch to SCP**

within the LEC (service control point (SCP) – LEC with SS7 signaling system
include, switching system, SCP, SSP, STP, etc. – column 2 – lines 37-50));

at the switch, receiving, from the SCP, a response to the first query directing the
switch to set up the call to a service node (SN) (**Fig. 2 – 112 Enhanced Service
Platform (service node) – column 5 – lines 3-5, i.e., SCP and switch at 118 (LEC)
sets up the call to a service node 112**);

at the SN, applying service logic and providing, to the switch, a second request to
set up the call to the subscriber station, wherein the second request comprises a non-
loop parameter (**Fig. 2 – 112/116 Prepaid Platform (service node) – 114 Inter-
exchange Network (IXC) – column 5 – lines 11-19, i.e., applying service logic (e.g.,
prepaid call processing) and provides second request in initial address message
(ISUP IAM) with digits (non-loop parameter) to switch in the IXC (IXC with SS7
signaling system include switching system, SCP, SSP, STP, etc. – column 2 –
lines 37-50**));

receiving the second request at the switch (**column 5 – lines 25-26, i.e., switch
within IXC 114**);

responsive to the second request, sending, from the switch to the SCP, a second
query seeking call processing guidance, the second query including the non-loop
parameter (**Fig. 2 – 114 Inter-exchange Network (IXC) - (IXC with SS7 signaling
system include switching system, SCP, SSP, STP, etc. – column 2 – lines 37-50) –
column 5 – lines 17-19, i.e., initial address message with called party number field
to SCP in IXC (non-loop parameter**));

detecting the non-loop parameter in the second query at the SCP, and

responsively sending, from the SCP to the switch, a directive to set up the call to the

subscriber station rather than to the SN (**Fig. 2 – column 5 – lines 25-29, i.e., mobile

switching center (108) receives a directive from the SCP in IXC (114) to set up the

call to the subscriber station (104))**; and

receiving the directive at the switch and responsively setting up the call to the

subscriber station (**column 5 – lines 30-34**).

Regarding claim 19, Donovan et al. teach the method further comprising

generating a Wireless Intelligent Network (WIN) trigger in response to receiving the first

request at the switch, wherein the first query is generated in response to the WIN trigger

(**Fig. 1 – 108 Mobile Switching Center (MSC) – column 3 – lines 45-48, i.e., wireless

handset signals (request) to the switch and a WIN trigger is encountered at the

MSC, and in response MSC generates first query to service control point in IXC

114**).

Regarding claim 20, Donovan et al. teach the method wherein the second query

is generated in response to a Wireless Intelligent Network (WIN) trigger, and

wherein the WIN trigger is generated as a result of the switch receiving the

second request (**Fig. 2 – 108 Mobile Switching Center (MSC) – column 5 – lines 27-

29, i.e., second request received at the MSC that generated a WIN trigger**).

Regarding claim 21, Donovan et al. teach a system for setting up a telephone call

(**Fig. 2 – 204 Caller; 120 Telephone**) comprising:

a switch for receiving a first request to set up the telephone call to a subscriber

station (**Fig. 2 – 118 Local Exchange Network (LEC)) - column 4 – lines 66-67, i.e.,

switch at LEC receives a first request to set up a call via 120**);

a service control point (SCP) coupled with the switch, the SCP comprising

service logic for providing call processing guidance to the switch (**Fig. 2 – 118 Local

Exchange Network (LEC) – column 5 – lines 1-2, i.e., sending request the switch

to SCP within the LEC (service control point (SCP) – LEC with SS7 signaling

system include, switching system, SCP, SSP, STP, etc. – column 2 – lines 37-50)**);

and

a service node (SN) coupled with the switch for providing one or more

telecommunication services to the subscriber station, the SN comprising service logic

for generating and sending a second request to the switch to set up the call to the dialed

station, the service logic including instructions for inserting a non-loop parameter in the

second request (**Fig. 2 – 112 Enhanced Service Platform (service node) – column 5

– lines 3-5, i.e., SCP and switch at 118 (LEC) sets up the call to a service node

112**),

wherein the service logic of the SCP comprises instructions for recognizing the

non-loop parameter in the second request and further instructions for responsively

providing guidance to the switch to set up the call to the subscriber station (**Fig. 2 –**

column 5 – lines 25-29, i.e., mobile switching center (108) receives a directive

from the SCP in IXC (114) to set up the call to the subscriber station (104)).

Regarding claim 25, Donovan et al. teach the system of claim wherein the switch

is coupled with the SN via a voice services trunk connection (**Fig. 1 – 114 Inter-**

exchange Network (IXC) – 112-116 Wireless Enhanced Service/Prepaid Platforms

(SN) – column 4 – lines 30-31, i.e., calls routed to SN via an inter-exchange

network (SN is coupled to switch via a voice services trunk connection)).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Donovan et al. (U.S. Patent Number 6,292,656) in view of Foti (U.S. Patent Number

6,963,583).

Claim 9 - The method of claim 1, wherein the second request comprises a

Session Initiation Protocol (SIP) INVITE message, and wherein the non-loop parameter

comprises predefined digits included in a parameter of the SIP INVITE message.

Claim 10 - The method of claim 9, wherein the SIP INVITE message is mapped

to a Signaling System 7 (SS7) message in accordance with the Wireless Intelligent

Network (WIN) IS-771 standard.

Regarding claims 9-10, Donovan et al. disclose everything claimed as applied

above (see claims 1). However, Donovan et al. fail to include the well known in the art

Session Initiation Protocol (SIP – the most common protocol for VoIP), and specifically

about the SIP INVITE is mapped to a SS7 message in accordance to WIN IS-771

standard. Although Donovan et al. teach all the standards (SS7, ISUP, etc.) and

equipment that the telecommunications industry have been used to communicates over

their networks (Donovan et al. – column 2 – lines 37-49).

In the same field of endeavor, Foti teaches the detail mapping of all the different

signaling protocols (Foti – Fig. 1 – column 1 – lines 16-16) SIP, Mobile Application Part,

IS-41 (i.e., IS-771), mapping table (Table. 1), and SIP INVITE message is mapping to

SS7 and WIN protocol (Foti – column 5 – lines 3-5, lines 13-19, and Fig. 6 – Message

Flow Diagram - column 8 – lines 27-30). The advantage of Foti is the generic call server

and method for the protocol converting between all of the different signaling protocols

(Foti – column 3 - lines 10-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to provide Donovan et al. with the mapping of the SIP

to the SS7 protocols.

7.   Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Donovan et al. (U.S. Patent Number 6,292,656) in view of Farris (U.S. Patent Number

6,195,425).

Claim 22 - The system of claim 21, further comprising a signal transfer point

(STP), wherein the switch and the SCP are coupled via the STP, and the switch and the

SN are also coupled via the STP.

Claim 23 - The system of claim 22, wherein the SCP is coupled with the STP via

a Signaling System 7 (SS7) communication link.

Claim 24 - The system of claim 23, wherein the SS7 communication link is an

SS7 over Internet Protocol link.

Regarding claims 22-24, Donovan et al. disclose everything claimed as applied

above (see claim 21). However, Donovan et al. fail to include the well known in the art

about the interconnection/interface between the components of the Signaling System 7

(SS7), e.g., STP and SCP, and the use of SS7 link over the Internet protocol link.

Although Donovan et al. teach all the standards (SS7, ISUP, etc.) and equipment that

the telecommunications industry have been used to communicates over their networks

(Donovan et al. – column 2 – lines 37-49), Donovan et al. also teach the operation of

local exchange (LEC)/inter-exchange networks (IXC), mobile switching center, service

node with SS7 signaling (it is well known in the art that LEC/IXC with SS7 must have

components such as STP and SCP).

In the same field of endeavor, Farris teaches the detail local exchange and inter-exchange system that comprising a STP, wherein switch and SCP are coupled via the STP, and the switch and the SN are also coupled via the STP (Farris – Fig. 3, Fig. 7A and Fig. 7B – column 16 – lines 46-55, column 17 – lines 15-20), Farris also teaches the use of SS7 communications link over the Internet protocol (Farris – Fig. 9 – Packet Switched, Fig. 10-12 Internet/IXC/LEC – column 23 – lines 45-53. The advantage of Farris is the universally interconnect telecommunications systems communications using differing signaling control systems in wide area network (Farris – column 22 - lines 62-66).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Donovan et al. with the use of SS7 communications link over the Internet and a more detail of LEC/IXC interconnection components STP and SCP.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McConnell et al. (U.S. Patent Number 6,373,930) teach a method and system for pre-paid calling services.

McConnell et al. (U.S. Patent Number 6,741,695) teach a method and system for signaling protocols conversion.

White et al. (U.S. Patent Number 6,014,379) teach call custom services such as call forwarding applications.

Dendi (U.S. Patent Number 5,889,782) teach encapsulation of proprietary protocol information conformed to SS7.

Ung (U.S. Patent Number 6,785,534) teaches a method and system for changing payment options in pre-paid services.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai N. Nguyen whose telephone number is (571) 270-3141. The examiner can normally be reached on Monday - Thursday 6:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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KNN
08/08/2007